Supporting Information

A convenient and efficient precursor transformation route to well-dispersed, stable, and highly accessible supported Au nanocatalysts with excellent catalytic hydrogenation performances

Jin−Feng Xie[a,§], Hai−Tao Li[a,§], Qiang Gao[a,*], Hao Wang[a], Yan−Sheng Gong[b,*]

[a]*Department of Chemistry, Faculty of Material Science and Chemistry, China University of Geosciences, Wuhan 430074, PR China.*

[b]*Department of Materials Science and Engineering, Faculty of Material Science and Chemistry, China University of Geosciences, Wuhan 430074, PR China.*

[*]Corresponding authors:

Tel./Fax: +86 027 6788 3731;

E-mail addresses: gaoqiang@cug.edu.cn (Q. Gao);

gongysh@cug.edu.cn (Y. Gong).

[§]*The two authors contributed equally to this work.*

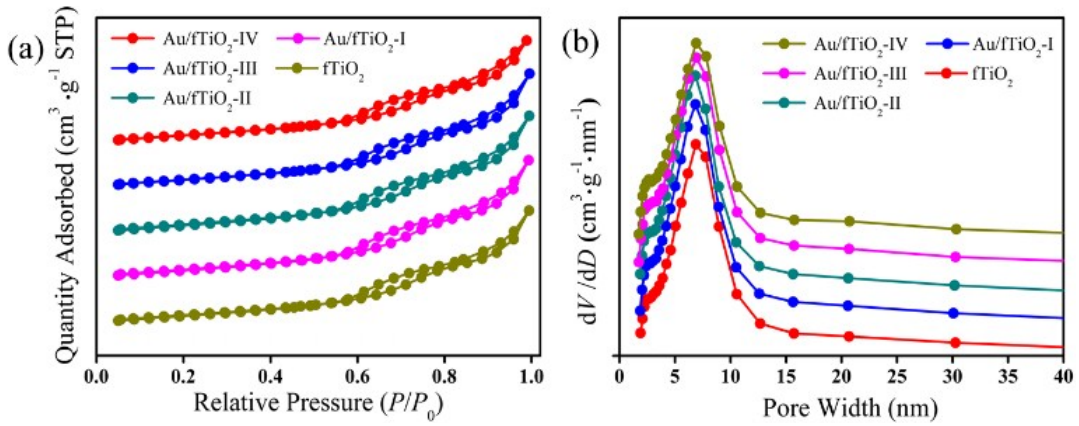

Fig. S1 (a) N_2 adsorption/desorption isothermal curves and (b) corresponding BJH pore size distribution curves of the flower-like titania samples without and with AuNPs loading.

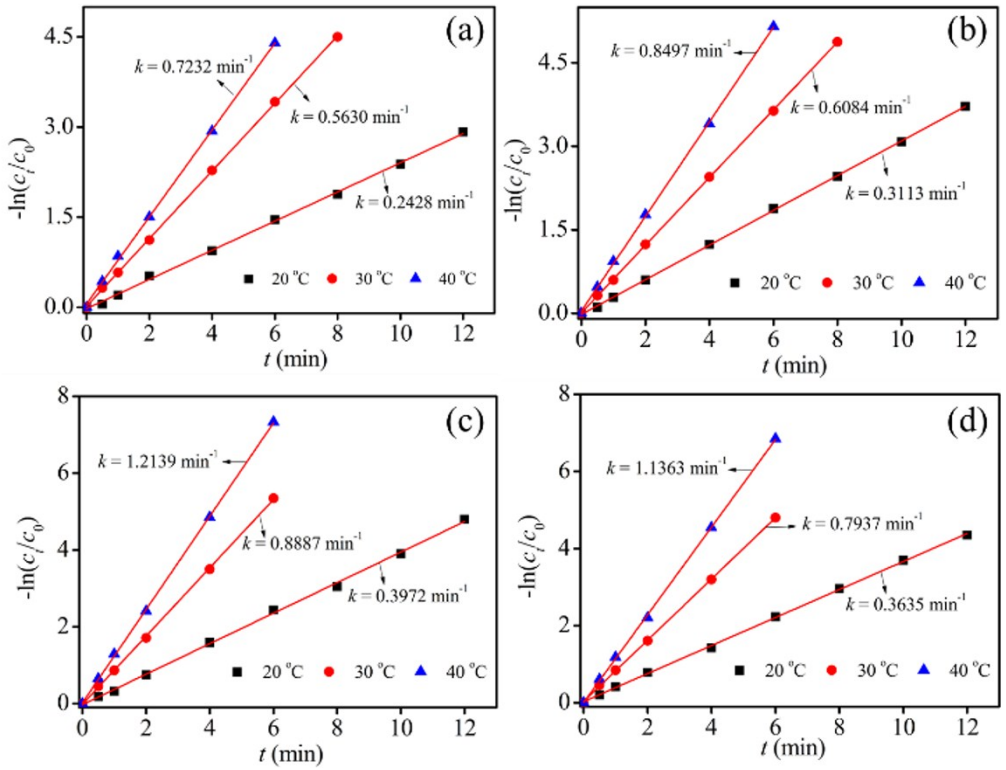

Fig. S2 Reduction kinetic curves of 4-NP catalyzed by (a) AuNPs/$fTiO_2$-I, (b) AuNPs/$fTiO_2$-II, (c) AuNPs/$fTiO_2$-III, and (d) AuNPs/$fTiO_2$-IV under different reaction temperatures.

Table S1 Comparison of the textural parameters of different Au-loaded TiO_2 nanocomposites.

Sample	Surface area ($m^2 \cdot g^{-1}$)	Pore volume ($cm^3 \cdot g^{-1}$)	Ref.
Au-loaded TiO_2 nanotubes	92.39	0.31	1
Au-loaded mesoporous TiO_2 (1.0 mol% Au)	133	0.27	2
Au-loaded mesoporous TiO_2 (2.0 mol% Au)	119	0.23	2
Au-loaded mesoporous TiO_2 (5.0 mol% Au)	89	0.16	2
Au@TiO_2	59	\	3
Au-loaded dendrimer derived TiO_2	56.9	0.12	4
Au-loaded unsulphated TiO_2	89	\	5
Au-loaded sulphated TiO_2	132	\	5
AuNPs/fTiO_2-I~IV	142.3~149.3	0.39~0.43	This work

References

1 Q. Zhao, M. Li, J. Chu, T. Jiang and H. Yin, *Appl. Surf. Sci.*, 2009, **255**, 3773.

2 H. Li, Z. Bian, J. Zhu, Y. Huo, H. Li and Y. Lu, *J. Am. Chem. Soc.*, 2007, **129**, 4538.

3 I. Lee, J. Joo, Y. Yin and F. Zaera, *Angew. Chem. Int. Ed.*, 2011, **50**, 10208.

4 M. Nemanashi and R. Meijboom, *Catal. Lett.*, 2013, **143**, 324.

5 A. Baylet, C. Capdeillayre, L. Retailleau, J. Valverde, P. Vernoux and A. Giroir-Fendler, *Appl. Catal., B*, 2011, **102**, 180.